

AUG 28 2006

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Case No.: 61605US003

REMARKS

This is a response to the Official Action dated April 28, 2006. Applicants wish to thank the Examiner for his efforts to arrange an interview and apologize for the scheduling difficulty encountered. Because of the shortness of the remaining time in which to respond, Applicants submit this amendment for consideration. Reconsideration of the above-identified application in view of the preceding amendments and the following remarks is respectfully requested.

Claims 1, 12, 13 and 22 have been further amended and claims 1-17 and 20-22 remain pending in this application. No new matter is believed to have been added to the subject application by way of this amendment, nor have any new issues been raised.

35 U.S.C. § 112 Rejections

Claim 5 stands rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In the official action, the Examiner stated as follows:

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the following reasons:

4. Claim 5 is indefinite because of the presence of a Trademark, i.e. TEFLON. If the trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of the 35 U.S.C. 112, second paragraph, Ex parte Simpson, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. See also 608.01(v), 2173.05(u) in the MPEP.

Applicants have amended claim 5 to eliminate the Trademark and believe that the rejection has been obviated. In summary, Applicant submits that the rejection of claim 5 under 35 USC § 112, second paragraph, has been overcome, and that the rejection should be withdrawn.

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35 U. S. C. § 103 Rejections

Claims 1-4, 6-7, 9-14 and 20-22 stand rejected under 35 USC § 103(a) as being unpatentable over Miller et al. (US. 5,552,048) in view of Rasmussen (US. 3,954,933). In the official action, the Examiner stated as follows:

5. Claims 1-4, 6-7, 9-14, 16-17, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US. 5,552,048) in view of Rasmussen (US. 3,954,933).

Miller teaches a filter element including a filter media 23, an upstream support 21 and a multi-layer downstream support 22 and 24 (note that the cushioning layer can be between the filter layer and either of the upstream and downstream supports, see col. 4, lines 17-21). The second downstream support layer 24 includes "" 25 [as in claims 1,6, 12, 13 and 22]. The cushioning layer (or first downstream support, see col. 8, lines 42-45) is a thin, highly porous, nonwoven, polyester layer made by a wet laid process (col. 5, lines 29-46) [as in claims 7, 9-10, 14 and 16-17]. The examiner considers such a layer made by the same process and material disclosed by the applicant and having a thickness less than 100 microns yet being highly porous as having its surface contact points "minimized". As shown in e.g. figures 1 and 6, the filter element includes a perforated core, an outer cage and end caps [as in claims 13 and 20-21]. The filter media is pleated to have longitudinally-extending, radial pleats [as in claims 2-3].

Although Miller teaches his second downstream support can be *any* woven *or* nonwoven material (col. 4, lines 39-40) and cites an extruded, apertured, polymeric, mesh having "" 25 as an example, he doesn't mention the layer being an extruded apertured film. However, such is taught by Rasmussen (U.S. 3,954,933). As shown in figure 5 below and also figures 2-3, Rasmussen teaches a layer comprising an extruded, apertured, polymeric film having 1 and portions 2, 3 between apertures [as in claims 1, 11, 13, and 22]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have at least the invention to have at least the second downstream support layer of Miller to be the film layer of Rasmussen, since Rasmussen teaches the benefits of a reinforcement that is thin, strong, and inexpensive and that *can be used in filters* (col. 1, lines 8-13).

As for claim 4, Miller teaches the filter media can be in the form of a membrane (col. 5, line 52). He also teaches that the membrane can be *any pore size* (col. 5, lines 58-59) but does not specifically teach a microporous membrane having a pore size of about 0.1 to about 10 microns. However, such would have been obvious to the skilled man depending upon the nature of the fluid being filtered, the nature and size of the contaminants in the fluid, and the acceptable pressure drop across the filter element-as taught by Miller (col. 5, lines 47-50).

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Further, claims 5, 8 and 15 stand rejected under 35 USC § 103(a) as being unpatentable over Miller et al. (US. 5,552,048) Kawano et al. (US 6,808,553). In the official action, the Examiner stated as follows:

6. Claims 5, 8 and 15 are rejected under 35 USC. 103(a) as being unpatentable over the modified Miller in view of Kawano et al. (U.s. 6,808,553). These claims add the limitations of a filter media of Teflon (PTFE), among others and the nonwoven support layer being laminated to the media. Kawano teaches a polyester, nonwoven, support layer laminated to a PTFE filter media (col. 1, lines 32-33; col. 4, lines 30-44). It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the first downstream support layer of Miller to be laminated a PTFE filter media, since Kawano teaches the benefit of such a laminate exhibiting a high collection efficiency compared with a glass fiber medium under the same pressure loss (col. 1, lines 32-35).

In an effort to clarify the distinguishing features of the independent claims of the present application, applicants will like to provide the information contained in the earlier response for both Examiner's consideration. It is believed that the following clearly distinguishes the claims of the present application from any disclosure, suggestion or teaching contained in the applied references.

As discussed earlier and repeated again below for the Examiner's convenience, Applicants believe that apertured films are fundamentally distinct from extruded mesh materials in both their design and the processes used to manufacture them. Apertured films typically contain primary strands or that run in the down web machine direction while the extruded meshes contain primary or strands that only run diagonal to the down web machine direction. Apertured films are manufactured using a process similar to that used to produce biaxial oriented films while extruded mesh is manufactured using a counter-rotating die technology that places the strands in two different planes.

A further distinction between the apertured film and the extruded mesh is the greater ability of the apertured film to "nest" when folded. When a material containing a 3-dimensional structure is folded onto itself, and when measured produces a thickness less than the sum of the 2 layers measured independently, then a "nesting" condition of the strands or is taking place. The apertured film exhibits the greatest ability for the strands or to "nest" due to the primary strand or rib formation running in the machine direction. This rib nesting capability allows for the maximum surface area in the filter's design. In contrast, the extruded mesh possesses a diagonal strand relative to the machine direction that, when folded in the machine direction, provides only limited "nesting" capability.

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To support the above discussion, material samples were measured for single layer thickness and folded thickness (facing) using a vernier caliper. Calculated % nesting was determined by the equation:

$$\% \text{ Nesting} = (2 \times \text{Single Layer Thickness} - \text{Folded Thickness}) / 2 \times \text{Single Layer Thickness}.$$

	Type	Measured Single Layer Thickness (in)	Calculated 2x Thickness (in)	Measured Folded Thickness (in)	Calculated % Nesting
Delnet RC0707-24P	Apertured Film	0.006	0.012	0.007	42%
Delnet RB0707-31P	Apertured Film	0.005	0.010	0.006	40%
Nalle N01716-90PP	Extruded Netting	0.018	0.036	0.030	17%
Nalle N01014-60PP	Extruded Netting	0.011	0.022	0.020	9%
Tygar 3091L	Spunbond	0.005	0.010	0.010	0%
PTFE Membrane	Membrane	0.002	0.004	0.004	0%

Examples of the nesting capabilities of the various materials measured are shown in the table above. As can be seen, apertured film material achieves over double the percent nesting as compared to the extruded mesh material.

The European primary reference discloses that an *"Extruded polymeric mesh is generally preferable to other support and drainage materials, including woven and non-woven fibrous webs and polymeric netting, because it is so smooth..."* (See page 3, lines 39 – 40). However, claim 1 of the present application specifies *"extruded apertured film having ribs, the primary strand or rib formation running in the machine direction."* Benefits of the apertured film are related to the importance of 'beads', 'strands', or "nesting to maximize the filter area and thus optimize flow performance. The strands of the apertured film, when folded upon one and other, will buckle and "misalign" (i.e. not be exactly opposed) creating the optimum nesting condition. The nested which are now in a "side-by-side" fully nested configuration provide an efficient fluid pathway.

The following table presents the calculated effects of varying the thickness and nesting properties of the apertured film vs. the extruded mesh on the individual pleat thickness of a typical cartridge construction. The pleat thickness without nesting effects can be determined by summing the thickness of the individual layers of material and multiplying by 2 to arrive at the individual folded pleat thickness (reference column "2x Sum of Material Thickness"). The pleat thickness with nesting effects can be determined by first multiplying the downstream drainage layer thickness by the appropriate nesting % and then summing the thickness of the individual

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layers of material and multiplying by 2 to arrive at the individual folded pleat thickness (reference column "Individual Pleat Thickness").

Filter Media Pleat Design	Upstream Support Thickness (in)	Membrane Thickness (in)	Downstream Support Thickness (in)	Downstream Drainage Thickness (in)	2x Sum of Material Thickness (in)	% Nesting of Downstream Drainage	Individual Pleat Thickness
A	0.004	0.002	0.004	0.005	0.030	40%	0.026
B	0.004	0.002	0.004	0.018	0.056	17%	0.050
C	0.004	0.002	0.004	0.010	0.040	9%	0.038

Pleat Design A: Tygar 3091L/PTFE Membrane/ Tygar 3091L/ Apertured Film (Delnet RB0707-31P)

Pleat Design B: Tygar 3091L/PTFE Membrane/ Tygar 3091L/ Extruded Mesh (Nalle N01716-90PP)

Pleat Design C: Tygar 3091L/PTFE Membrane/ Tygar 3091L/ Extruded Mesh (Nalle N01014-60PP)

Filter design A, which utilizes the extruded apertured film having ribs, the primary strand or rib formation running in the machine direction, provides significantly more nesting capability than the extruded mesh materials. This additional nesting capability allows for a smaller individual pleat thickness, which provides for the greatest filter area in a cartridge.

The amount of filter media that can be packaged into a 10 inch cartridge with a centre core of outer diameter 1.73 inches and an outer cage of inner diameter of 2.646 inches can be determined in the following manner.

Pleat Pack Length = Center Core Dia x 3.14 = (1.73" x 3.14) = 5.435"

Number of Pleats per Cartridge = Pleat Pack Length / Individual Pleat Thickness = (5.435"/0.026") = 209 pleats

Effective Media Length = 2x Pleat Height x Number of Pleats per Cartridge = (2 x 0.44" x 209) = 184"

Total Effective Filter Media (10" Cart) = Effective Media Width x Effective Media Length = 9.16" x 184" = 1685 sqin.

Total Effective Filter Media in Sq Ft = 1685 sqin / 144 = 11.7 sqft

The example above utilized the pleat design A which contains the apertured film. A similar calculation can be made utilizing the extruded nets of pleat design B and C.

The following table shows 10 inch cartridge areas for both apertured film and extruded mesh constructions.

Filter Media Pleat Design	Individual Pleat Thickness	Total Pleats per Cartridge	10" Cartridge Area (sqft)	10" Cartridge Flow (gpm/psid)
A	0.026	209	11.7	4.1
B	0.050	109	6.1	2.1
C	0.038	142	8.0	2.8

Predicted product flow rates can then be determined in the following manner:

10" Cartridge Flow = 10" Cartridge Area x Filter Media Flow = (11.7 sqft x 0.35 gpm/psid/sqft) = 4.1 gpm/psid

The predicted results demonstrate the improved flow performance benefits expected of a filter design using an extruded apertured film having ribs, the primary strand

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or rib formation running in the machine direction when compared to the extruded mesh of Miller et al.

As the Examiner knows, the Examiner carries the burden under Section 103 to establish a *prima facie* case of obviousness, *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and must show that the references relied on teach or suggest all of the limitations of the claims. *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *Carella v. Starlight Archery*, 804 F.2d 135, 231 U.S.P.Q. 375 (Fed. Cir. 1986). There must be some explicit teaching or suggestion in the art to motivate one of ordinary skill to combine the references in the manner suggested. See, *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957, 43 U.S.P.Q.2d 1294 (Fed. Cir. 1997). *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437, 45 U.S.P.Q.2d 1269 (Fed. Cir. 1997).

In this instance, the Examiner cannot establish a *prima facie* case of obviousness and has admitted that the primary reference relied upon does not teach or suggest all of the limitations of the amended independent claims. Since the secondary references cannot make up for the deficiencies of the primary applied reference, applicants submit that all remaining claims are allowable. Specifically, there is considerable difference between the extruded apertured film having ribs, the primary strand or rib formation running in the machine direction as now required by the present independent claims. Accordingly, the independent claims, and each of the claims depending respectively therefrom, are not rendered obvious by the combination of Miller et al. ("743) in view of any of the applied secondary references. Therefore, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested for the following reasons.

As is also known, CCPA and Federal Circuit case law provide the grounds for attacking an obviousness rejection for want of a *prima facie* showing. One such ground for attacking an obviousness rejection for want of a *prima facie* showing can be expressed as follows:

The Examiner Failed to Prove a *Prima Facie* Case of Obviousness

First, as the PTO recognizes in MPEP §2142:

The legal concept of *prima facie* obviousness is a procedural tool of examination which applies broadly to all arts. It allocates who has the burden of going forward with production of evidence in each step of the examination process. The examiner bears the initial burden of factually supporting any *prima facie*

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conclusion of obviousness. *If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...* The initial evaluation of *prima facie* obviousness thus relieves both the examiner and applicant from evaluating evidence beyond the prior art and the evidence in the specification as filed until the art has been shown to suggest the claimed invention.

As is known, the PTO may reject a claim as obvious (albeit novel) over a single prior art reference on the ground that it would have allegedly been obvious to a person of ordinary skill in the art to change what the reference shows to that which is claimed. The change, it may be asserted, is a matter of standard design technique. More often, however, the PTO will assert obviousness on the basis of the combination of two or more prior art references, e.g., asserting that the primary reference teaches or shows most of that which is claimed and the secondary reference shows or suggests the element (s) or other teaching missing from the primary reference.

In either the single reference or plural references situation, "the Examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made." MPEP §2142. The Examiner must put aside knowledge of the applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed "as a whole." *Id.*

As stated above, there is considerable difference between the extruded apertured film having ribs, the primary strand or rib formation running in the machine direction as required by the present independent claims and although Miller teaches his second downstream support can be *any* woven or nonwoven material (col. 4, lines 39-40) and cites an extruded, apertured, polymeric, mesh having " 25 as an example, he doesn't mention the layer being an extruded apertured film. However, such is taught by Rasmussen (U.S. 3,954,933). As shown in figure 5 below and also figures 2-3, Rasmussen teaches a layer comprising an extruded, apertured, polymeric film having 1 and portions 2, 3 between apertures [as in claims 1, 11, 13, and 22]. as recited in the Examiner rejection of the independent claims. Accordingly, the independent claims, and each of the claims depending respectively therefrom, are not rendered obvious by the combination of Miller et al. ("743) in view of any of the applied secondary references. As the Examiner knows, the CCPA and Federal Circuit case law provide grounds for attacking an obviousness rejection for want of a *prima facie* showing.

"There Must Be a Basis in the Art for Combining or Modifying References."

MPEP §2143.01 provides:

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The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*; 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The Federal Circuit has several times expressly addressed the issue of how to evaluate an alleged case of *prima facie* obviousness to determine whether it has been properly made. Thus, *In re Geiger, supra*, stated, in holding that the PTO "failed to establish a *prima facie* case of obviousness":

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

Of course, application of §103 presumes the existence of differences between the subject matter claimed and the teachings of any particular prior art reference. Otherwise a rejection under §102 would have sufficed. Thus, the Examiner must propose some modification of a particular reference or a combination thereof with another reference in order to arrive at the claimed invention. The Federal Circuit's assessment in *Geiger*, quoted above, is directed to the sufficiency of the teachings of a particular reference to justify a conclusion that any proposed modification or combination of references is what one of ordinary skill in the art would have found obvious to do at the time the invention was made. 815 F.2d at 688, 2 USPQ2d at 1278 (Fed. Cir. 1987).

The CCPA earlier expressly held that there must be some logical reason apparent from the evidence of record that would justify a combination or modification of references. *In re Regel*, 188 USPQ 132 (CCPA 1975). In determining whether one of ordinary skill in the art would find it obvious to modify or combine references, the teachings of the references taken with the knowledge that a worker in the art already possesses constitute the scope and content of the prior art that is referred to in the *Graham* decision. *Graham v. John Deere*, 383 US 1, 148 USPQ 459 (1966). Thus, the question raised under §103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art.

Accordingly, even if all elements of a claim are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the teachings of the references to arrive at the claimed invention. *In re Regel, supra*.

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Since the Examiner has not expressly pointed out how the prior art suggests or anticipates the benefits of modifying or combining references or when external factors, such as the changing state of the art, provide the motivation to one of ordinary skill in the art to make the modification or combination as claimed, but has only made the unsupported assertion that "It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have at least the invention to have at least the second downstream support layer of Miller to be the film layer of Rasmussen, since Rasmussen teaches the benefits of a reinforcement that is thin, strong, and inexpensive and that *can be used in filters* (col. 1, lines 8-13)" and ... "It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the first downstream support layer of Miller to be laminated a PTFE filter media, since Kawano teaches the benefit of such a laminate exhibiting a high collection efficiency compared with a glass fiber medium under the same pressure loss (col. 1, lines 32-35)", Applicants respectfully submit that the Examiner has not made a case for *prima facie* obviousness, as there is **no disclosure**, suggestion or teaching **related to filters** (or even mention of filters in the entire document except in the one place pointed out by the Examiner). Thus, Applicants believe that there is no basis whatsoever for combining the Miller et al. reference with the Rasmussen reference and an action acknowledging same is respectively requested.

In the absence of any basis or any such reason or suggestion, the *prima facie* case of obviousness failed. Some motivation to make a change is required in order to establish *prima facie* obviousness. When the prior art itself provides no apparent reason for one of ordinary skill in the art to make a modification or to combine references, an argument clearly, properly exists that the claimed subject matter would not have been obvious.

The Federal Circuit has also repeatedly warned against using the applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See, e.g., *Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

More recently, the Federal Circuit reversed the Office's §103 rejection of claims in *In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998), because the board had "reversibly erred in determining that one of [ordinary] skill in the art would have been motivated to combine these references in a manner that rendered the claim invention [to have been] obvious." *Id.* at 1357. The court noted that to "prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness." The court set forth three possible sources for such motivation, namely "the nature of the problem to be solved, the

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teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *Id.* According to the court, "the Board merely invoked the high level of skill in the field of art," *id.*, without explaining what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination. "If such a rote invocation could suffice to supply a motivation to combine, the more sophisticated scientific fields would rarely, if ever, experience a patentable technical advance." *Id.*

In this particular rejection, the Examiner has not presented any such motivation or explained what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination and therefore has failed to present a prima facie case of obviousness and an action acknowledging same is respectfully requested.

As is known, it is an incumbent upon the Examiner to present all the elements of a prima facie case of obviousness. Thus, the Examiner must explain why the prior art appeared to show the claimed subject matter and not simply the general aspects of the invention. Further, the Federal Circuit has added that when more than one reference or source of prior art is required in establishing the obviousness rejection "it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claim substitution or other modification." [See, In re: Lahu, 747 F.2d 703, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984)] Thus, it is not enough that the Examiner present references that contain the assorted features of the invention. The Examiner must also show why it would appear that the references would have been combined. [See also, In re: Fritch, 972 F.2d 1260, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)] This the Examiner has not done and cannot do as it is believed that there is no disclosure, suggestion or teaching in either of the applied references to combine the applied reference to produce the now claimed filter element and an action acknowledging same is respectfully requested.

All Claim Limitations Must Be Considered, Especially When Missing From the Prior Art

When evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. A case in point is *In re Fine*, 873 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), where the court reversed an obviousness rejection because the Examiner ignored a material, claimed, temperature limitation which was absent from the reference.

Another case in point is *In re Miller*, 418 F.2d 1392, 164 USPQ 46 (CCPA 1969), where the court held that printed indicia on a measuring cup, while not *per se* patentable subject matter, had to be considered in determining patentability, explaining as follows:

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The fact that printed matter by itself is not patentable subject matter, because non-statutory, is no reason for ignoring it when the claim is directed to a combination. Here there is a new and unobvious functional relationship between a measuring receptacle, volumetric indicia thereon indicating volume in a certain ration to actual volume, and legend indicating the ration, and in our judgment the appealed claims properly define this relationship.

Thus, if printed matter is functionally related to the other elements of the invention, the printed matter must be considered in determining whether the claimed invention is nonobvious in view of the prior art.

In *Jones v. Hardy*, 727 F.2d 1524, 220 USPQ 1021 (Fed. Cir 1984), the Federal Circuit reversed a district court holding of invalidity of patents relating to the use of molded polystyrene sheets in the formation of concrete walls, for failure to consider the invention "as a whole." The basic error of the trial court was in judging the "idea" behind the invention. The Federal circuit held that:

The invention cannot be tested on the basis of whether the "idea" of using molded polystyrene is patentable. Under the patent statute, Title 35 U.S.C., "ideas" are not patentable; claimed structures and methods are. Reducing a claimed invention to an "idea," and then determining patentability of that "idea" is error. [citation omitted.] Analysis properly begins with the claims, for they measure and define the invention. 727 F.2d at 1527-27, 220 USPQ at 1024.

The district court in *Jones* had treated the structural differences between the claimed invention and the prior art as the invention itself. Rejecting this denigration of the claimed invention "as a whole," the Federal Circuit observed that:

The "difference" may have seemed slight (as has often been the case with some of history's great inventions, e.g., the telephone) but it may also have been the key to success and advancement in the art resulting from the invention. Further, it is irrelevant in determining obviousness that all or all other aspects of the claim may have been well known in the art. *Id.* at 1528, 220 USPQ at 1024.

The Federal Circuit has continually cautioned against myopic focus on the obviousness of the difference between the claimed invention and the prior art rather than on the obviousness *vel non* of the claimed invention as a whole relative to the prior art as §103 requires. See, e.g., *Hybritech Inc. v. Monoclonal Antibodies, Inc.* 802 F.2d 1367, 1383, 231 USPQ 81, 93 (Fed. Cir. 1986).

As the Examiner will note, Applicants have amended the independent claims in an effort to clarify the specific combination Applicants intend to be the subject thereof.

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Specifically, Applicants have clarified that the second downstream support layer is in contact with the first downstream support layer and is fabricated so as to facilitate lateral fluid flow relative to the multi-layer downstream pleat support, wherein the second downstream support layer comprises **an extruded apertured film having ribs, the primary strand or rib formation running in the machine direction.** Such specific description is not believed to be disclosed, suggested or taught by any of the currently applied references.

Since the Examiner has failed to make a prime facie case of obviousness, Applicants respectfully submit that the claims, as currently amended, are allowable and an action acknowledging same is respectfully requested.

"Reliance Upon General Knowledge to Negate Patentability Must be Articulated and Placed on the Record and the Failure to do so is NOT Consistent with either Effective Administrative Procedure or Effective Judicial Review"

Concerning the Examiner's assertion (personal knowledge/official notice/design choice) without providing acceptable reasoning that certain claims are rejected because "It is considered that it would have been obvious....," applicants respectively submits that the Examiner's characterization of "It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have at least the invention to have at least the second downstream support layer of Miller to be the film layer of Rasmussen, since Rasmussen teaches the benefits of a reinforcement that is thin, strong, and inexpensive and that *can be used in filters* (col. 1, lines 8-13)..." and ..." It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the first downstream support layer of Miller to be laminated a PTFE filter media, since Kawano teaches the benefit of such a laminate exhibiting a high collection efficiency compared with a glass fiber medium under the same pressure loss (col. 1, lines 32-35)" are **clearly unsupported conclusions** (personal knowledge/official notice/design choice) - **not reasons** on which to **base rejections**. In fact, applicants, who are skilled in the art, do not understand how the Examiner can possibly propose that the references cited could possibly disclose, suggest or teach the filter element, comprising, among other features, a second downstream support layer is in contact with the first downstream support layer and is fabricated so as to facilitate lateral fluid flow relative to the multi-layer downstream pleat support, wherein the second downstream support layer comprises **an extruded apertured film having ribs, the primary strand or rib formation running in the machine direction,** as defined in the instant claims, especially when there is only one obscure mention of filters in Rasmussen.

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It is applicants' position that the Examiner has not and cannot provide acceptable reasoning why the specific combination of features to form a filter element as required by the claims, would have been obvious to one of ordinary skill in the art.

One form of personal knowledge (other than the taking of official notice) is when the Examiner states that specific information that is needed to support the obviousness rejection is a matter of "design choice." That is, the Examiner is missing specific information and relies on general knowledge in the prior art that the Examiner assumes would teach the missing subject matter. The Examiner must provide sufficient reasoning to substantiate the claim of obvious design choice.

In the latest rejection, the Examiner appears to make a new rejection based on "design choice," as the Examiner may know, a bald statement very similar to the Examiner's was addressed by the PTO Board of Patent Appeals and Interferences in In re Garrett, 33 BNA Pat. Trademark & Copyright J. 43 (November 13, 1986). The Board, in reversing an Examiner's similar, but legally untenable alleged rejection, held that the Examiner's assertion that the modification proposed was ... "an obvious matter of engineering design choice was an unsupported conclusion -- not a reason upon which to base the rejection". [See also In re Antonie, 559 F.2d 618, 195 U.S.P.Q. 6 (C.C.P.A. 1977), Carl Schenck, A.G. - v. Norton Corp., 713 F.2d 782, 218 U.S.P.Q. 698 (Fed. Cir. 1983) and Carman Industries v. Wahl, 774 F.2d 932, 220 U.S.P.Q. 481 (Fed. Cir. 1983)]. The Applicants find no disclosure, suggestion or teaching in the applied reference which would suggest to one skilled in the relevant art to combine the specific components mentioned above, as claimed in the present application.

In a later example relating to "design choice", in In re Chu, 66 F.3d 292, 36 U.S.P.Q.2d 1089 (Fed. Cir. 1995), the invention related to an apparatus used to control or filter emissions, such as sulphur oxides, oxides of nitrogen, and particulates (such as fly ash), from fossil fuel boilers. The Examiner was of the opinion that the prior art showed all the features of the invention with the exception of a baghouse filter having a catalyst located within the filter. The applicant Chu argued that the prior art references did not teach or suggest the positioning of the catalyst inside the bag retainer of the filter bags. Chu maintained that this feature was significant because the bag retainer provided support and prevented the filter bags from collapsing during pulse-jet cleaning. Chu provided technical evidence relating to, for example, the frailty of fabric filters during pulse-jet cleaning, and the violent "snapping" action during pulse-jet cleaning.

On appeal, the Board concluded that situating the catalyst within the bag retainer was a matter of "design choice" and affirmed the rejection. The Federal Circuit, however, reversed the rejection. The court emphasized that Chu's technical evidence mitigated against a

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conclusion that placement of the catalyst was merely a design choice. Since the Board provided no specific reasoning to support the assertion of design choice, the Federal Circuit reversed the rejection. (Emphasis added) Thus, the Chu decision instructs that the Examiner must provide reasoning why a specific feature is a matter of design choice, and therefore obvious. (Emphasis added)

In a more recent case, In re Sang-Su Lee, 61 U.S.P.Q.2d 1430, the Federal Circuit spoke definitively concerning the requirement for “judicial review of a decision of the Board of Patent Appeals and Interferences denying an application for a patent by stating that any rejection must be founded on the obligation of the agency to make the necessary findings and to provide an administrative record showing the evidence on which the findings are based, accompanied by the agency’s reasoning in reaching its conclusions.” The Federal Circuit stated that “as applied to the determination of patentability vel non when the issue is obviousness, it is fundamental that the rejection of a patent application must be based on evidence comprehended by the language of the statute addressing obviousness.” The Federal Circuit went on to say that “the patent examination process centers on prior art and the analysis thereof; when patentability turns on the question of obviousness, the search for an analysis of prior art includes evidence relevant to the findings of whether there is a teaching, motivation or suggestion to select and combine the references relied on as evidence of obviousness.” The Federal Circuit further stated that “in an obviousness determination, the factual question of motivation to combine prior art is material to patentability, and cannot be resolved on subjective belief and unknown authority.” (Emphasis added) “In an obvious determination under patent law, it is improper, in determining whether a person of ordinary skill would have been led to combine references, simply to use that which the inventor taught against its teacher; thus, the Board of Patent Appeals and Interferences must not only assure that the requisite findings are made, based on evidence of the record, but must also explain the reasoning by which the findings are deemed to support the agency’s conclusion.”

As further stated in the opinion, “In finding the relevant facts, in assessing the significance of the prior art, and in making the ultimate determination of the issue of obviousness, the examiner and the Board of Patent Appeals and Interferences are presumed to act from the viewpoint of a person having ordinary skill in the art to which the subject matter pertain; thus, when they rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record and the failure to do so is not consistent with either effective administrative procedure or effective judicial review....” “In the context of an obvious determination, the Board of Patent Appeals and Interferences cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies....” “Sound administrative

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procedure requires that an agency apply the law in accordance with statute and precedent; the agency tribunal must make findings of relevant facts, and present its reasoning in sufficient detail that the court may conduct meaningful review of the agency's action."

Specifically, the Federal Circuit stated as follows "...The foundation of the principal of judicial deference to the rulings of agency tribunals is that the tribunal has specialized knowledge and expertise, such that when reasoned findings are made, a reviewing court may confidently defer to the agency's application of its knowledge in its area of expertise. Reasoned findings are critical to the performance of agency functions and judicial reliance on agency competence." (Citations omitted) "The 'common knowledge and common sense' on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency's obligation. This court explained in Zurko, 258 F.3d at 1385, 59 USPQ2d at 1697, that 'deficiencies of the cited references cannot be remedied by the Board's general conclusion about what is 'basic knowledge' or 'common sense.' The Board's finding must extend to all material facts and must be documented on the record, least the 'haze of so-called expertise' acquire insulation from accountability. 'Common knowledge and common sense,' even if assumed to be derived from the agency's expertise, do not substitute for authority when the law requires authority. (Citations omitted)

Applicants respectfully submit that, like the Board in In re Lee, by essentially saying that to combine the elements of the references, without a detailed explanation as to why or how, was 'common knowledge and common sense' and that such is not a substitute for authority when the law requires authority. Consequently, applicants respectfully request that the Examiner provide the authority in the form of the above requested affidavit or additional reference/detailed explanation which provide the detailed explanation as to how the **apertured film** missing element of the applied references was provided, as required by the amended claims, and an action acknowledging same is respectfully requested.

It is applicants' position that the Examiner has not and cannot provide acceptable reasoning why the specific combination, as now required by the amended claims, are obvious without some documented evidence, **what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination** to support the asserted "obviousness" and an action acknowledging same as respectfully requested.

At this point, Applicants believe that they have provided more than enough factual and legal reasons to sufficiently overcome any possible rejections the Examiner may propose with respect to the appealed claims.

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Specifically, as stated above and numerous times before, there is considerable difference between the extruded apertured film with ribs, the primary strand or rib formation running in the machine direction as required by the present independent claims and an action acknowledging same is respectfully requested.

"COMBINATION OF OLD ELEMENTS"

As the Examiner surely knows, another area of special interest in obviousness determinations is for inventions relating to a combination of old elements. The general rule relating to the obviousness of an invention that combines old elements is the same as that for inventions that include all new elements. That is, whether it would have been obvious to have combined the claimed elements based on the prior art.

In other words, when an invention is a new combination or arrangement of components, such as mechanical components in a mechanical device, the legal conclusion of obviousness requires that there be some suggestion, motivation, or teaching in the prior art whereby the person of ordinary skill would have selected the components that the inventor selected and used them to make the new device. [Heidelberger Druckmaschinen AG vs Hantscho Commercial Prods., Inc., 21 F.3d 1068, 1072, 30 USPQ 2d 1377, 1379 (Fed. Cir. 1993) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination."); Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934, 15 USPQ 2d 1321, 1323 (Fed. Cir. 1990) (it is insufficient that prior art shows similar components, unless it also contains some teaching, suggestion, or incentive for arriving at the claimed structure)].

"[V]irtually all [inventions] are combinations of old elements." [Richdel, Inc. v. Sunspool Corp., 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) ("Most, if not all, inventions are combinations and mostly of old elements."); Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983)].

The Federal Circuit has explained:

Combination claims can consist of new combinations of old elements or combinations of new and old elements.... Because old elements are part of these combination claims, claim limitations may, and often do, read on the prior art.... It is well established in patent law that a claim may consist of all old elements, such as the rigid-conduit system, for it may be that the combination of the old elements is novel and patentable. Similarly, it is well established that a claim may consist of all old elements and one new element, thereby being patentable. [Clearstream Wastewater Sys., Inc.

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v. Hydro-Action, Inc., 206 F.3d 1440, 54 USPQ 2d 1185 (Fed. Cir. 2000) (citing Intel Corp. v. U.S. Int'l Trade Comm'n, 946 F.2d 821, 842, 20 USPQ 2d 1161, 1179 (Fed. Cir. 1991); Panduit Corp. v. Dennison Mfg., 810 F.2d 1561, 1575, 1 USPQ 2d 1593, 1603 (Fed. Cir. 1987))).

In addition, the Federal Circuit has stated:

Most if not all inventions arise from a combination of old elements.... Thus, every element of a claimed invention may often be found in the prior art.... However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention.... Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. [*In re Kotzab*, 217 F.3d 1365, 55 USPQ 2d 1313, 1317 (Fed. Cir. 2000)].

Therefore, an Examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. [*In re Rouffet*, 47 USPQ 2d at 1457-58]. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an Examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be "an illogical and inappropriate process by which to determine patentability." [*Sensonic, Inc. v. Aeronic Corp.*, 81 F.3d 1566, 1570, 38 USPQ 2d 1551, 1554 (Fed. Cir. 1996)].

Accordingly:

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. In *Re Rouffet*, 47 USPQ 2d at 1457-58.

An example of an invention relating to a combination of old elements or process steps was given in *Fromson v. Advance Offset Plate, Inc.* [*Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 225 USPQ 26 (Fed. Cir. 1985)]. In *Fromson*, the claimed invention related

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to a photographic plate used in printing and for a process of manufacturing the plate. The patentee, Fromson, sued Advance Offset for infringing its patent. The district court held the process claims obvious over the prior art, and therefore invalid.

On appeal, the Federal Circuit reversed. Significant in the Federal Circuit's reversal was the district court's focus on the fact that the claimed process was a combination of old steps. As stated by the Federal Circuit:

That each "element" was old at the time the invention was made was undisputed in the PTO, at trial, and before this court. There is no basis in the law, however, for treating combinations of old elements differently in determining patentability. See *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d at 1540, 218 USPQ at 880.

The critical inquiry is whether "there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d at 1462, 221 USPQ at 488 (emphasis added). *Id.*, 225 USPQ at 31 (footnote omitted) (alteration in original).

Because the District Court was unable to show any suggestion to combine the prior art elements, the Federal Circuit held the claimed invention nonobvious over the prior art. *Id.* at 32.

Thus, even if the Examiner's proposed combination of references were operable in the intended environment, Applicants respectfully submit that the present claims are patentable in view of the foregoing and an action acknowledging same is respectfully requested.

Specifically, as stated above and numerous times before, there is considerable difference between the **extruded apertured film with ribs, the primary strand or rib formation running in the machine direction s** as required by the present independent claims and an action acknowledging same is respectfully requested.

General Guidance With Respect to the Particular Form of the Invention Insufficient

As the Examiner knows, general guidance with respect to the particular form of the invention or how to achieve it amounts to an "obvious to try" suggestion that is insufficient to support an obviousness rejection. For example, in *In re Roemer*, 258 F.3d 1303, 59 USPQ2d 1527 (Fed. Cir. 2001), the invention disclosed a set of shielded gradient coils for nuclear magnetic resonance imaging (MR). A typical MR apparatus includes a large magnet, a radio frequency (RF) producing coil, and gradient coils. The magnet produces a magnetic field that causes the spin vectors of certain protons in a sample to orient themselves with the field, thus creating a

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background field. The gradient coils provide a linear reference so the machine can detect the exact location of these energy releases. The MR apparatus then measures this released energy and converts it into an image. To enhance the efficiency of the MR apparatus, the main magnet is generally located close to the imaging volume (e.g., the space occupied by the patient). Locating the magnet close to the imaging volume, however, also brings the magnet close to the gradient coil. The changing magnetic fields from the gradient coil induce eddy currents from nearby conducting media. These eddy currents have an adverse effect on the spatial and temporal quality of the background magnetic field, thereby distorting image quality and accuracy.

The Roemer patent disclosed and claimed a solution to this problem. The, gradient coil set included a gradient coil and a second coil having a current opposite to that of the gradient coil, located between the gradient coil and the main magnet. This opposing current coil essentially canceled out the current of the gradient coil, thereby preventing eddy current effects on the main magnet. Claim 1 recited:

A gradient coil set for an MR apparatus comprising a plurality of radially disposed fingerprint coils adapted to be placed within a main field magnet, each of said coils adapted to provide a respective surface current distribution, the total magnetic field resulting from the coaction of said surface current distribution having a predetermined gradient in a predetermined single dimension within a predetermined area inside said coil set and a substantially zero value outside said coil set, whereby magnetic forces between said coil set and said field magnet are substantially eliminated. *Id.*, 59 USPQ2d at 1528

The Board held all claims unpatentable over the prior art Smith patent. The Smith patent disclosed shielding an MR apparatus with the use of a second set of coils. According to the Smith patent, a set of coils may surround the outside of the main magnet to produce a counter-magnetic field. The shield in the Smith patent had a different purpose and result from the Roemer invention. Specifically, the Smith invention provided far field magnetic shielding to protect the room in which the MR apparatus was located from adverse magnetic effects. Smith, however, did not disclose shielding a main magnet from a gradient-producing magnet while maintaining a linear gradient.

In reversing the Board's holding of unpatentability, the Federal Circuit noted that at the end of the written description, the Smith patent stated, "The use of the external field cancelling method being presented here can allow the gradient fields to be produced with greatly reduced problems due to the eddy currents." *Id.*, 59 USPQ2d at 1531. This assertion, the Federal Circuit reasoned, was not accompanied by any teaching of how to adapt the Smith invention for use as a shield for gradient fields. In addition, the Smith patent did not disclose any of the complex mathematics required for positioning the shielding coils about the gradient-producing coils

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to suppress the external field while still obtaining a substantially linear internal gradient field. Moreover, the Smith patent did not teach or suggest how to specially design a shielding field to meet the requirements of a linear gradient field, nor did it suggest the need to do so. According to the Federal Circuit:

In short, the Smith patent gives "only general guidance as to the particular form of the claimed invention or how to achieve it." . . . This "obvious to try" suggestion of the Smith patent does not render claim 1 of the Roemer reissue application obvious, . . . nor does it supply substantial evidence that claim 1 corresponds to the count. Thus, the Board erred in its conclusion that claim 1 ... is ... unpatentable over the Smith patent. *Id.* (quoting *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988)).

The same analogy applies to the present independent claims and an action acknowledging patentability is respectfully requested.

CONCLUSION

The amended claims above have been clearly shown to be patentable over all applied references as well as the best references available in that the amended claims are patentable over all references by providing an extruded apertured film having ribs, the primary strand or rib formation running in the machine direction. As demonstrated by the Applicant with comparative experiments an extruded apertured film having ribs, the primary strand or rib formation running in the machine direction material gives a surprisingly greater ability to "nest" when folded than the extruded mesh material of the applied references.

For the reasons discussed above, the reasoning forming the basis of the Examiners Rejections are not in accordance with Federal Circuit precedents, is technically incorrect and the Examiner has clearly failed to prove a *prima facie* case, as numerous elements of a valid *prima facie* case were not met.

Accordingly, for the foregoing reasons, reversal of the Rejection of Claims 1-17 and 20-22 is believed to be warranted and such action is earnestly solicited.

If after reviewing this amendment, should the Examiner have questions, require additional information or believe that a telephonic or personal interview would resolve any remaining matters, the undersigned may be contacted at the telephone number provided below.

Applicants hereby petition for a one-month extension of time. Authorization is given to charge deposit account number 13-3723.

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In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Respectfully submitted,

8/28/06
Date

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